

DTIC FILE COPY

AD A102544

LEVEL ✓

(1)

INSTITUTIONAL BARRIERS ON DOD LABORATORIES

A REPORT OF THE AD HOC TASK GROUP

ON

IN-HOUSE LABORATORIES

TO

THE DEPUTY UNDER SECRETARY FOR RESEARCH AND ADVANCED TECHNOLOGY

SEPTEMBER 1979



DISTRIBUTION STATEMENT A
Approved for public release; Distribution Unlimited



RESEARCH AND  
ENGINEERING

OFFICE OF THE UNDER SECRETARY OF DEFENSE  
WASHINGTON, D.C. 20301

(1)

11 Sep 77

10  
T32

27 SEP 1979

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Removal of Institutional Barriers Inhibiting Effective DoD  
Laboratory Management

You will recall that as a result of the 1978 Laboratory Directors' Conference, I established a task group to examine the impact of management constraints on the DoD Laboratories. This group, consisting of representatives from the three Services and my office, has prepared the attached report which summarizes its findings.

The task group has proposed a fundamental change to the present diverse mechanisms used to control resource expenditures at the laboratories. While the attached report has not been formally endorsed by DoD, I view it as an excellent statement of the problem and I will work to assure that it receives serious consideration in determining actions to be taken to improve the management of DoD laboratories.

Ruth M Davis

Ruth M. Davis  
Deputy Under Secretary of Defense  
for Research and Engineering  
(Research and Advanced Technology)

Attachment

CONFIDENTIAL  
AUG 2 1981  
S C

DISTRIBUTION STATEMENT A  
Approved for public release;  
Distribution Unlimited

412 125

TABLE OF CONTENTS

	<u>Page</u>
SUMMARY .....	1
A. INTRODUCTION .....	2
Background .....	2
Participants .....	2
Significance of the In-House Laboratories .....	2
B. APPROACH .....	2
C. FINDINGS .....	3
Identification of Barriers .....	3
Characteristics .....	3
Impact .....	4
Other Factors Governing Laboratories .....	5
D. PROPOSAL .....	6
Rationale .....	6
Integrated Control .....	7
Implementation .....	8
E. CONCLUDING REMARKS .....	9
APPENDIX A - EXISTING BARRIERS .....	10

Accession For	
NTIS GRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification <i>PL-182 on file</i>	
By _____	
Distribution/ _____	
Availability Codes	
Avail and/or	
Dist	Special
A	

### SUMMARY

At the request of the Deputy Under Secretary of Defense for Research and Engineering (Research and Advanced Technology), a task group of senior research and development executives examined barriers to effective performance of in-house laboratories. This effort was in part motivated by:

Perception of conflicting controls on laboratories, informally transmitted to ODUSDRE at the Gaithersburg Laboratory Directors meeting and by personal correspondence, and Congressional interest in recent years but particularly during the FY 79 HASC hearings.

The task group verified that there are a variety of controls on laboratory operations, common to the three Services, which taken collectively seriously limit the effective use of laboratory resources. The individual controls, based on the legitimate exercise of authority, are motivated by the need to limit costs. It is the observation of this task group that the laboratories are being seriously affected by a collection of controls which limit their capability to exercise substantive and effective management in meeting mission requirements and exploiting technological opportunities.

Modifying individual controls as a solution to this situation disguises the adverse effect that the individual controls collectively produce. Consequently, the task group believes that the problem should be approached from a fundamental point of view, aimed at accomplishing the objectives of the controls while simultaneously improving effective laboratory management.

The task group recommends that a single control mechanism be adopted to govern the level of internal laboratory operations. For example, as part of the normal budget cycle, a dollar ceiling on the total Civil Service payroll expenditures could be established for each laboratory. Laboratory management officials then would have the requisite authority and responsibility for operating within this ceiling and individual resource constraints should be eliminated.

The intent of such a recommendation is not the elimination of control; rather, it is the introduction of a different form of control which will:

- Meet the public's legitimate expectation of efficiency, economy, and effective use of manpower in government.
- Strengthen the capabilities of laboratory management officials through the assignment of appropriate authority to match their demanding responsibilities.

- Improve the effectiveness of the DoD research and development laboratories by permitting the relief from inhibiting barriers.

#### A. INTRODUCTION

##### Background

At the request of DUSDRE(R&AT), a task group of senior technical executives from the three Services was formed to examine the nature and impact of various management controls as they apply to the in-house laboratories. This effort was motivated by questions raised during the FY79 budget hearings before the HASC R&D Subcommittee, as well as by the concerns expressed by technical directors at the 1978 Laboratory Technical Directors Conference.

##### Participants

Each of the participants in this task group was designated by his respective Service Assistant Secretary for R&D. Dr. B. Kulp represented the Air Force, Mr. N. Klein the Army<sup>1</sup>, and Dr. Probus, Mr. Colvard, and Dr. Berman represented the Navy. Each of these senior executives was supported by senior personnel from headquarters and the laboratories.

##### Significance of the In-House Laboratories

To put the study in perspective, it should be noted that the in-house laboratories represent an investment of \$4.0 billion in real estate and equipment, employ 60,100 people, and have an annual budget of \$5 billion. The role of the laboratories is multifaceted. They pursue new technological concepts that hold promise to benefit the defense of this nation; they support the Services in the acquisition and evaluation of new systems and other material (smart buyer concept); and they provide technical support during production and in the field, thus providing a corporate memory that allows an infusion of lessons learned into new developments. Finally, because of their unique position, the laboratories have comprehensive access to intelligence and proprietary information. This allows them to assess the seriousness of the Soviet technological challenge, reduce the possibility of technological surprises, and to develop effective interfaces with private sector performers.

#### B. APPROACH

The task group's initial job was to define the problem. Each participant was requested to compile a listing of management controls impacting his respective area of responsibility along personnel, fiscal, and organizational lines, supported by background discussion material. Included in the latter was to be an identification of the source of each control, to

---

1. Mr. Klein has retired. His replacement is Mr. J. Spates.

enable the group to determine whether they were common to all laboratories or, conversely, whether the three Services were applying different controls on their respective laboratories. Participants were also asked to formulate tentative recommendations for the group's consideration which, if implemented, would improve the general operating environment of the laboratory community.

As a second job the task group undertook to examine the appropriateness of more fundamental changes to laboratory management. Its objective was the synthesis of a new management concept which would allow the laboratories a maximum of flexibility within a framework of controls that are operationally feasible and acceptable.

#### C. FINDINGS

##### Identification of Barriers

From the results of this effort, the task group had little difficulty in agreeing on two immediate findings. First, an extensive and diverse array of controls on the DoD laboratories does indeed exist. Second, aside from some differences in implementation among the Services, the controls are practically universal in application across all laboratories. The material collected and prepared by the group--which supports these findings--includes lists of existing controls, point papers addressing specific issues, and comments on the impact of controls from management officials at both Headquarters and laboratory levels. Appendix A provides a condensed listing and description of the barriers identified in this task.

##### Characteristics

Further examination revealed that these controls can be generally described in terms of the following characteristics:

- They originate from staff offices and organizations outside the RDT&E line management chain (that is, from offices not directly responsible for managing and executing the DoD RDT&E program);
- They prescribe limits on the use or consumption of particular resources;
- They are usually expressed in quantitative terms; this sometimes results in mechanistic approaches to implementation and assessment;
- They are administered through hierarchical levels of staff offices. At any of these levels, a control may be increased (made more restrictive on subordinate levels), but is not decreased; and

- Perhaps most significantly, they are independent of the purposes served (or intended to be served) by the resources which they control.
- Controls have been applied piecemeal without apparent regard for other existing controls.

The result of these constraints is that the R&D laboratories today are overcontrolled by the imposition of numerous limitations that are largely independent of one another. Viewed separately, each of these controls represents an appropriate exercise of authority by higher management echelons over subordinate levels within the Defense organization. Each has a legitimate purpose. But their impact on the laboratories is negatively cumulative. Viewed separately, each is a form of suboptimization: an attempt to "optimize" (usually, to minimize the cost of) some particular aspect of laboratory operation without regard for the total organizational and program responsibilities of each laboratory.

#### Impact

These controls are viewed universally throughout the R&D laboratory community as barriers to effective management. They restrict the authority of senior laboratory officials to direct the operations of their respective organizations by inhibiting management flexibility. Their real impact, however, is far more than simply providing a source of irritation or frustration to management personnel--they are adversely affecting the laboratories' abilities to carry out the technical programs for which they are responsible.

Of all the laboratories' resources, the most valuable are clearly the capability, skill, and talent of their technical personnel. It is not surprising, therefore, that the participants agree unanimously that constraints on the employment and utilization of personnel are the most destructive of the laboratories' abilities to meet their responsibilities. Some examples of these constraints are personnel ceilings, high-grade controls, hiring freezes, limitations on appointment and classification authority, average grade controls, and promotion freezes. The committee does not challenge the authority of higher management echelons to impose such constraints. Nonetheless, the number of personnel constraints is considered excessive; they are often redundant and even conflicting; and--most importantly--they are frequently changed during the course of a fiscal year. To the extent that these changes are independent of a laboratory's planned, approved, and funded workload (as is usually the case since the constraints originate outside the RDT&E management chain), they appear arbitrary to laboratory managers.

Virtually all of the constraints imposed on Laboratory operations have their fundamental origin in a desire to reduce or limit the cost of Government operations. The members of this task group, of course, have no

reservations whatever in accepting this objective. But at the same time we recognize that the Laboratories must use the resources available to them if they are to be productive, contributing members of the DoD RDT&E community. Decisions as to how these resources are used, ought to be based on the objectives of the technical programs for which they were allocated. In our opinion, this means that these decisions should be made by those who will be held accountable for meeting the objectives: line management officials at the Laboratory level.

This is not an argument that the Laboratories should be autonomous organizations. On the contrary, they must be highly responsive to National military requirements, and the results of their efforts should be continually judged in terms of these requirements.

#### Other Factors Governing the Laboratories

A wide variety of established policies, instructions, and procedures provide substantive management direction to the laboratories, authoritatively describing why they exist, what they are intended to accomplish, and how they are permitted to operate. Their basic role is established by the fact that they are component organizations of their respective services and of the Defense Department, oriented toward national security objectives and operating with defined mission responsibilities. Their technical efforts are neither initiated nor pursued in a vacuum, but are in response to stated defense needs and requirements and must be reviewed and approved under established program planning, budgeting, and appropriation procedures. Laboratory resources to carry out their technical programs, and the legal authority to use those resources for the purposes intended, are provided only after these procedures have been followed. Finally, like all Government organizations, Laboratory operations are governed by appropriate Federal statutes and policies, and are subject to periodic inspection, audit, and review.

The factors discussed in the preceding paragraph serve to "bound" the respective sphere of responsibility, authority, and technical effort for each Laboratory. In the absence of the specific operating constraints examined by this committee, the Laboratories would have sufficient management latitude to operate within these bounds. At the same time, the bounds would effectively govern the overall level, nature, and direction of each Laboratory.

The requirements that the R&D Laboratories meet their program objectives and that they do so efficiently and economically are not incompatible. The question arises, however, as to whether resource limitations aimed at promoting efficiency and economy should be specified in detail and imposed from outside the Laboratories, or whether Laboratory management officials should be assigned the responsibility for operating within total programmed resource levels. In the task group's view, the latter would be preferred for a number of reasons:

- It would permit technical program management decisions to be made at operating levels closest to program execution.
- Increased management flexibility at the Laboratory level would carry with it increased responsibility and accountability for results.
- A means for assessing the performance of Laboratory management officials would be provided.

The removal of the institutional barriers described here would assist implementation of the spirit as well as the letter of the recently enacted Civil Service Reform Act. Some of the key features of this legislation are aimed at strengthening the capabilities of senior executives, and holding managers accountable for their programs. There is an obvious incompatibility between the requirement that a Laboratory Director be held accountable for results on the one hand, and restrictions on his authority to use approved and available resources to achieve those results, on the other. As long as the institutional barriers remain in effect, true authority and responsibility will be divorced from one another to the detriment of the laboratories' technical programs.

#### D. PROPOSAL

##### Rationale

In discussing the different approaches which could be taken to resolve the problems caused by these institutional barriers, the group considered addressing them individually and formulating a separate request for relief from each control. This approach was rejected for a number of reasons. First, it would have served to mask the collective impact of the controls taken together which is of primary concern. As mentioned previously, each control represents suboptimization; dealing with them separately would have similarly suboptimized the group's efforts. Second, the group believes such an approach would at best provide only a temporary solution. Elimination of existing controls would not, in itself, necessarily prevent their reestablishment in the future. Finally, the group recognizes that an appeal to higher authority for directed relief from individual controls does not solve the underlying philosophy of control that leads to micro-management.

Rather than pursue a piecemeal approach, the group presents a proposal for a single control mechanism that could replace the present constraints without interfering with the oversight and control responsibilities of higher management echelons. The essential elements of this proposal are an extension and modification of the Project REFLEX experiment conducted in the early 1970's.

### Integrated Control

REFLEX provided participant laboratories greater personnel flexibility in that they were relieved of ceiling limitations, but REFLEX lacked a priori control over personnel levels. The proposed concept would add that control in the form of a previously established ceiling on the total Civil Service payroll expenditure allowed at each R&D laboratory within a fiscal year. Operating within this control ceiling, laboratory management officials would have the authority to implement local work force planning decisions concerning staffing levels, skill mix, grade structure, hiring, promotion, etc.

It is extremely important to note that the "bounds" discussed earlier would remain in effect under this concept. Two in particular deserve attention:

- The procedures by which the R&D laboratories' technical programs are approved and funded would not change. The payroll authority granted under integrated control would be a ceiling, not a funding appropriation or authorization.
- Civil Service regulations and statutes would continue to govern personnel management decisions with regard to employment qualifications, merit promotion principles, employee classification, pay and wage schedules, etc. integrated control would not enlarge upon laboratory management's present authority in any of these areas.

The integrated control concept would have its impact felt in a number of areas:

- It would effectively control the general level of civilian employment at the R&D laboratories. The combination of payroll ceiling, available funding, program responsibilities, and personnel regulations would govern local management's ability to increase the number of people employed.
- It would permit the elimination of a number of existing barriers intended to control specific categories of resources, since these controls would become unnecessary (e.g., high grade controls).
- The efforts of Headquarters staff personnel now engaged in implementing and administering these controls could be redirected toward more appropriate management responsibilities, such as long range planning and program assessment.

- The unitary control mechanism of integrated control--as contrasted with the present mixture of different and sometimes conflicting controls--would provide for greater stability and predictability in Headquarters-level fiscal planning.
- Integrated control allows management to focus attention on the primary mission of the laboratory.
- The task group notes that the operating concept which it is recommending is fully consistent with the spirit and intent of the Civil Service Reform Act.

The management concept described in this proposal is more than a statement of accepted "principles of good management". It recognizes that R&D organizations and people are unique resources and must be effectively managed. Most importantly, the concept is needed because the capability of our in-house laboratories to function as productive, contributing organizations is being eroded by the imposition of more and more controls which dictate--often in precise detail--how they may use their available resources. Individually, each of these controls is intended to promote efficiency, economy, and effectiveness in Government; but, almost invariably, they deal exclusively with only the first two of these parameters. An improvement in the effectiveness of the laboratories, however, is desperately needed to meet the serious technological challenge of the nation's potential adversary.

#### Implementation

The mechanics of implementing the integrated control concept would be relatively straightforward.

Existing budgeting procedures already require that each R&D laboratory prepare an "operating budget" annually. This budget includes the laboratory's planned expenditures for civilian payroll and fringe benefits during the budget year. The budget is reviewed and approved within the laboratory's Headquarters organization. The laboratory budget is consolidated with other operating budgets for submission to higher echelons within the Service and DoD (along with program budgets); and, following OMB review and approval, the R&D Laboratory budget eventually becomes part of the President's budget submitted to the Congress.

This same procedure could be the basis for establishing each laboratory's payroll ceiling under integrated control. Subsequent to Congressional funding authorization and appropriation, control would be exercised over this cost; changes in overall employment levels from year to year would be effected through the budget approval process. Congressionally approved pay increases which differed from budgeted figures would be reflected in automatic adjustments to each laboratory's payroll ceiling.

#### E. CONCLUDING REMARKS

The members of this committee are convinced, based on our prior experience as well as our work with the task group, that the capabilities of the DOD Laboratories are being fundamentally impaired by the imposition of management constraints. There is no question in our minds that the in-house Laboratories have vital and unique roles to play in helping to meet both the long-term and short-term technological needs of the Military Services. The Laboratories exist not merely to administer routine, stable government programs--but to actively participate in and contribute to all phases of the RDT&E process. This process is characterized by an environment of uncertainty, change and the threat of a dedicated adversary; it should be supported by a management environment which allows the necessary flexibility to adapt to changing needs and opportunities. In short, the DOD Laboratories today need more freedom, not more constraints.

#### APPENDIX A - EXISTING BARRIERS

1. Personnel. Personnel as most important resource in any activity, doubly so for the creativity demanded of research, technological specialization.

- o Limits on recruitment to bring young talent in or required expertise for new mission.
- o Limits on ability to retain experience, particularly constraints on high grades.
- o Internal personnel procedures including formal manpower management programs.

##### Recruitment

- o Periodic hiring freezes.
- o Entry level salaries are low compared to industry offers.
- o Limited promotion potential (high grade ceilings, CSC standards).
- o Decline of challenging work (A-76, decline in R&D funding), particularly in the 6.1, 6.2, and 6.3A areas.

2. Fiscal

##### Availability of Funds

- o Inadequate recognition of inflation factors.
- o Insufficient funds to replace old equipment and acquire state-of-the-art instrumentation.
- o MILCON funding limits inadequate to replace obsolescent facilities.
- o Travel funds inadequate to meet program requirements.

##### Flow of Funds

- o Budget/appropriation cycles do not permit smooth funding authority.
- o Rate stabilization. Applied too early, restricting flexibility in allocation of personnel resources. Concerns industrially funded activities.

- o MILCON funding procedures lengthy, impeding replacement of obsolescent facilities.

Management of Funds

- o Procurement restrictions. \$100,000 D&F threshold.
- o Procurement restrictions. Length of cycle.
- o Excessive programming justification and procedures.
- o Present implementation of industrial fund concept overly restrictive.
- o Incremental funding forces non-optimum program execution and contracting.

3. Organizational

- o Perception of the role of the laboratory inconsistent between and within the Services.
- o Technology base programs suffer in several ways.
  - o Fragmented programs
  - o Program elements have multiple sponsors
  - o Micromanagement
  - o Technologists not involved in the planning process
  - o Funding insufficient
  - o Lengthy and complex procurement cycles.
  - o Disconnect between funds and manpower
  - o Regulatory constraints (OSHA, EPA)
  - o Excessive low utility audits
  - o Excessive reporting requirements
  - o Complex travel regulations
  - o Proposed OMB Circular A-76 does not recognize unique characteristics of R&D.

DISTRIBUTION LIST

OSD

Honorable Fred P. Wacker, Assistant Secretary of Defense (Comptroller), Rm 3E836, The Pentagon

Robert B. Pirie, Jr., Assistant Secretary of Defense (Manpower, Reserve Affairs and Logistics),  
Rm. 3E808, The Pentagon

Dr. Robert R. Fossum, Defense Advanced Research Projects Agency, 1400 Wilson Blvd, Arlington, VA 22209

Dr. Eugene Fubini, Chairman, Defense Science Board, Rm 3D1034, The Pentagon

DISTRIBUTION LIST

ARMY

Honorable Percy A. Pierre, Assistant Secretary of the Army (Research, Development and Acquisition),  
Rm. 2E672, The Pentagon

LtGen D. R. Keith, Deputy Chief of Staff for Research, Development and Acquisition), Rm. 3E412,  
The Pentagon

Dr. M. E. Lasser, Director of Army Research, Rm. 3E360, The Pentagon

**DARCOM MATERIEL DEVELOPMENT CONTACTS LIST**

(September 1979)

<u>CHONT</u>	<u>ADDRESS</u>	<u>MILITARY CONTACT</u>	<u>CIVILIAN CONTACT</u>
<u>DARCOM</u>			
Commander US Army Materiel Development and Readiness Command 5001 Eisenhower Avenue Alexandria, VA 22333	GEN J. R. Guthrie Commanding General DRCCG AV 284-9625	Vacant Asst Deputy/Science & Technology DRCDMD-ST AV 284-9560	
ARO	COL A. P. Simkus Commander DRXRO-ZA AV 935-3331	Dr. H. R. Robl Technical Director DRXRO-TD AV 935-3331	
AMRC	COL W. Benoit Deputy Director DRXMR-X0 AV 955-3357	Dr. E. S. Wright Director DRXMR-X AV 955-3275	
HEL	Vacant Deputy Director/CDR DRXHE-DD AV 283-3345	Dr. J. D. Weisz Director DRXHE-D AV 283-3883	
<u>MRADCOM</u>	MG A. H. Light, Jr. Commanding General DRDAR-CG AV 880-3200	Dr. R. E. Weigle Technical Director DRDAR-TD AV 880-3353	
RRL	COL R. M. Gomez Deputy Director/CDR DRDAR-BL AV 283-4405	Dr. R. J. Eichelberger Director DRDAR-BL AV 283-3981	

ACRONYTH	ADDRESS	MILITARY CONTACT	CIVILIAN CONTACT
GSI	Commander, Chemical Systems Laboratory Aberdeen Proving Ground, MD 21010	COL John D. Spence Commander DRDAR-CL AV 584-4361	Dr. B. L. Harris Deputy Director DRDAR-CID AV 584-4363
LCWSL	Commander Large Caliber Weapons Systems Laboratory Dover, NJ 07801	COL D. Whalen Commander DRDAR-LC AV 880-2544	Dr. J. D. Frasier Deputy Director DRDAR-LC AV 880-2549
SCWSL	Commander Fire Control and Small Caliber Weapons Systems Laboratory Dover, NJ 07801	COL A. Larkins Commander DRDAR-SC AV 880-2734	Dr. D. A. Gyrog Deputy Director DRDAR-SC AV 880-6495
AVRADCOM	Commander US Army Aviation R&D Command P.O. Box 209 St Louis, MO 63166	MG S. C. Stevens Commanding General DRDAV-G AV 693-1007	Mr. R. D. Lewis, II Technical Director DRDAV-GT AV 693-1007
	Director US Army Aviation Research and Technology Laboratories Ames Research Center Moffett Field, CA 94305	COL J. B. Fitch Deputy Director DAVDL-DD AV 359-5585	Dr. R. Carlson Director DAVDL-D AV 359-5584
	Director Aeromechanics Laboratory (USARTL) Ames Research Center Moffett Field, CA 94305	None	Dr. I. C. Statler Director DAVDL-AL-D AV 359-5837

ACRONYM	ADDRESS	MILITARY CONTACT	CIVILIAN CONTACT
	Director Applied Technology Laboratory (USARTL) Ft Monmouth, VA 23604	COL E. F. Knight Director DAVDL-AL-D AV 927-2208	Mr. G. T. Singley, Jr. Deputy Director DAVDL-ATL-DD AV 927-2000
	Director Propulsion Laboratory (USARTL) 21000 Brook Park Road Cleveland, OH 44135	None	Mr. J. Acurio Director DAVDL-PL-D Comm 216) 433-4000, Ext 6185
	Director Structures Laboratory (USARTL) NASA LRC Hampton, VA 22665	None	Mr. T. L. Coleman Director DAVDL-SL-D AV 432-3794
	Commander US Army Avionics R&D Activity Ft Monmouth, NJ 07703	COL D. A. Peterson Commander DAVAA AV 995-2304	Mr. T. J. Sueta Deputy Director DAVAA-D AV 995-2842
	Commander US Army Aviation Engineering Flight Activity Edwards AFB, CA 93523	COL L. J. McConnell Commander DAVTE-C AV 350-3901	Mr. J. Hayden Technical Director DAVTE-CT AV 350-2813
<u>CORADCOM</u>	Commander US Army Communications R&D Command Ft Monmouth, NJ 07703	BG E. Paige Commanding General DRSEL-CLY AV 995-2153	Mr. T. A. Pfeiffer Technical Director DRSEL-CLY AV 995-2686

ACBORTW	ADDRESS	MILITARY CONTACT	CIVILIAN CONTACT
<u>BRADCOM</u>	Commander US Army Electronics R&D Command 2800 Powder Mill Rd Adelphi, MD 20783	BG A. N. Stubblebine Commanding General DRDEL-CG AV 290-1600	Dr. R. S. Wiseman Technical Director DRDEL-CT AV 290-3094
<u>ASL</u>	Commander/Director Atmospheric Sciences Laboratory White Sands Missile Range, NM 88002	COL W. Rawlinson, Jr Commander DELAS-D AV 258-1225	Dr. H. Rachelle Deputy Director DELAS-DD AV 258-1227
<u>CSTAL</u>	Commander Combat Surveillance and Target Acquisition Laboratory Pt Monmouth, NJ 07703	COL J. G. Mikula Commander DELCS AV 996-5556	Mr. V. J. Kublin Deputy Director DELCS AV 996-5218
<u>ET&amp;DL</u>	Director Electronics Technology & Devices Laboratory Pt Monmouth, NJ 07703	None	Dr. C. G. Thornton Director DELET-D AV 995-2541
<u>EML</u>	Director Electronics Warfare Laboratory Pt Monmouth, NJ 07703	Mr. S. Cohen Deputy Director DELEW-DD AV 995-3123	Mr. M. Adler Director DELEW-D AV 995-3212
<u>HDL</u>	Commander Harry Diamond Laboratories 2800 Powder Mill Road Adelphi, MD 20783	COL C. R. Goodwin Commander DELHD-CO AV 290-1001	Dr. W. W. Carter Technical Director DELHD-TD AV 290-2002
<u>NVL</u>	Director Night Vision and Electro- Optics Laboratory Ft Belvoir, VA 22060	None	Mr. J. Johnson Acting Director DELNV-D AV 354-5151

ACTION	ADDRESS	MILITARY CONTACT	CIVILIAN CONTACT
<u>SWL</u>	Director Signals Warfare Laboratory Vint Hill Farms Station Warrenton, VA 22186	COL W. B. Clingspeel Associate Director DELSW AV 249-6456	Mr. H. S. Hovey, Jr. Director DELSW AV 249-6724
<u>MBADCOM</u>	Commander US Army Mobility Equipment R&D Command Ft Belvoir, VA 22060	COL A. F. Dorris Commander DRDME-Z AV 354-4996	Mr. D. B. Dinger Associate Technical Director DRDME-ZT AV 354-5251
<u>MCOM</u>	Commander US Army Missile Command Redstone Arsenal, AL 35809	MG L. Rachmeler Commanding General DRDMMI-X AV 746-2101	Dr. J. S. Kobler Director, Technology Laboratory DRDMMI-T AV 746-3322
<u>MAADCOM</u>	Commander US Army Natick R&D Command Natick, MA 01760	COL R. Cuthbertson Commander DRXNM-Z AV 955-2206	Mr. J. Flanagan Acting Technical Director DRXNM-ZT AV 955-2407
<u>TADACOM</u>	Commander US Army Tank-Automotive R&D Command Warren, MI 48090	BG A. H. Anderson Commanding General DRDTA-NG AV 273-2144	Dr. E. N. Petrick Chief Scientist DRDTA-NS AV 273-1494
<u>OCE</u>	Office, Chief of Engineers Research & Development Office 20 Massachusetts Ave, NW Washington, DC 20314	COL Maxim Kovel Deputy DAEN-RDZ-B AV 285-0255	Dr. James Choromokos, Jr. Chief, Research & Dev Office DAEN-RDZ-A AV 285-0254
<u>CBIL</u>	Commander US Army Construction Engineering Research Laboratory P.O. Box 4005 Champaign, IL 61820	COL Louis J. Cincero, Jr. Commander CERL-V AV 862-1110 Ext: 352-6511	Dr. L. R. Shaffer Technical Director CERL-V AV 862-1110 Ext: 352-6511

ACRONYM	ADDRESS	MILITARY CONTACT	CIVILIAN CONTACT
CRREL	Commander US Army Cold Regions Research and Engineering Laboratory P.O. Box 282 Hanover, New Hampshire 03755	COL Alfred Devereaux, Jr. Commander CRREL AV 684-3200	Dr. Dean R. Freitag Technical Director CRREL-TD AV 684-3201
ETL	Commander US Army Engineer Topographic Laboratories Ft Belvoir, VA 22060	COL Daniel L. Lycan Commander ETL-CD AV 354-5448	Mr. Robert P. Macchia Technical Director ETL-TD AV 354-5301
WES	Commander US Army Engineering Waterways Experiment Station P.O. Box 631 Vicksburg, Mississippi 39180	COL Nelson P. Conover Commander WES-VE Comm: 601 636-3111 Ext: 2513	Mr. Fredrick R. Brown Technical Director WES-VT Comm: 601 636-3111 Ext: 2664
AMEDS	HQ, US Army Medical R&D Command Ft Detrick Frederick, MD 21701	BG Garrison Rappmund Commander SGRD-ZA AV 343-7301	None
	US Army Aeromedical Research Laboratory Ft Rucker, AL 36362	COL S. C. Knapp Commander SGRD-UAZ AV 558-5107	None
	US Army Institute of Dental Research Walter Reed Army Medical Center Washington, DC 20012	COL D. E. Cutwright Commander SGRD-UDZ AV 291-3484	Dr. G. Battistone Research Coordinator SGRD-UDZ AV 291-2987
	US Army Institute of Surgical Research Brooke Army Medical Center Ft Sam Houston, TX 78234	COL B. A. Pruitt, Jr. Commander SGRD-USZ AV 471-2720	Dr. A. D. Mason Chief, Laboratory Division SGRD-USZ AV 471-4906

ACRONYM	ADDRESS	MILITARY CONTACT	CIVILIAN CONTACT
	Letterman Institute of Army Research Presidio of San Francisco, California 94129	COL J. Marshall Commander SGRD-ULZ AV 586-3600	None
	US Army Medical Bioengineering R&D Laboratory Ft Detrick, MD 21701	COL J. Albertson Commander SGRD-UBZ AV 343-2434	None
	US Army Medical Research Institute of Infectious Diseases Ft Detrick Frederick, MD 21701	COL R. F. Barquist Commander SGRD-UIZ AV 343-2833	Dr. W. R. Beisel Scientific Advisor SGRD-UIZ-C AV 343-2772
	US Army Research Institute of Environmental Medicine Natick, MA 01760	COL H. G. Dangerfield Commander SGRD-UEZ AV 955-2811	None
*	Walter Reed Army Institute of Research Washington, DC 20012	COL P. Russell Director SGRD-UWZ AV 291-3551	None
	US Army Biomedical Laboratory Edgewood Area Aberdeen Proving Ground, MD 21010	COL C. Llewellyn Commander SGRD-UVZ AV 584-3018	None

\* Sub-installations of Walter Reed: Malaysia, Brasilia, SEATO, Belgium, Kenya, Germany.

NAVY RDT&E ACTIVITIES

(September 1979)

ACRONYM	ADDRESS	MILITARY CONTACT	CIVILIAN CONTACT
NOSC	Commander Naval Ocean Systems Center San Diego, CA 92152	CAPT S. L. Guille Commander 00 AV 933-6484	Dr. Howard L. Blood Technical Director 01 AV 933-7275
NUSC	Commanding Officer Naval Underwater Systems Center Newport, RI 02840	CAPT Alfred S. McLaren Commanding Officer 00 AV 948-3344	Dr. C. Nicholas Pryor Technical Director 01 AV 948-4572
NPRDC	Commanding Officer Naval Underwater Systems Center Undersea Ranges Department Newport, RI 02840	CAPT Donald F. Parker Commanding Officer 00 AV 933-7106	Mr. Charles Solizy Department Head 38 AV 948-3504
DTNSRDC	Commander Navy Personnel Research and Development Center San Diego, CA 92152	CAPT Myron V. Ricketts Commander 00 AV 287-1515	Dr. James J. Regan Technical Director 01 AV 933-7107
NRL	Commanding Officer David W. Taylor Naval Ship Research and Development Center Bethesda, MD 20084	CAPT E. E. Henifin Commanding Officer 00 AV 297-3403	Dr. Alan Powell Technical Director 01 AV 287-1628
	Commanding Officer Naval Research Laboratory 4555 Overlook Avenue, S. W. Washington, D.C. 20375	CAPT E. E. Henifin Commanding Officer 1000 AV 297-3301	Dr. Alan Berman Director of Research 1001 AV 297-3301

ACRONYM	ADDRESS	MILITARY CONTACT	CIVILIAN CONTACT
NWC	Commander Naval Weapons Center China Lake, CA 93555	CAPT William B. Haff Commander 00 AV 245-2201	Mr. Robert M. Hillier Technical Director 01 AV 245-3409
NSWC	Commander Naval Surface Weapons Center Dahlgren, VA 22448	CAPT Paul L. Anderson Commander C AV 249-8101	Mr. James E. Colvard Technical Director D AV 249-8104
NCSC	Commanding Officer Naval Coastal Systems Center Panama City, FL 32407	CAPT R. D. Bennett Commanding Officer 100 AV 436-4201	Mr. Gerald G. Gould Technical Director 101 AV 436-4201
NADC	Commander Naval Air Development Center Warminster, PA 18974	CAPT Paul L. Dudley Commander 00 AV 441-2235	Dr. R. Kenneth Lobb Technical Director 01 AV 441-2513
ASN(REQS)	Assistant Secretary of the Navy (Research, Engineering and Systems) Rm. 4E736 Pentagon Washington, D.C. 20350	CAPT Anthony Sesow Executive Assistant AV 227-2674	Hon David E. Mann ASN(REQS) AV 225-6315
DNL	Director of Navy Laboratories Code MAT-08T1 Washington, D.C. 20360	Vacant Deputy Director 08T1B AV 222-2766	Dr. J. H. Probus Director 08T1 AV 222-2766
CND	Chief of Naval Development (MAT 08T) Navy Department Washington, D. C. 20360	RADM J. R. Lewis Assistant Deputy Chief of Naval Material for Tech. & Labs 08T AV 222-7118	

ACRONYM	ADDRESS	MILITARY CONTACT	CIVILIAN CONTACT
DCNM(AQUISITION)	Deputy Chief of Naval Material for Acquisition Navy Department Washington, D.C. 20360	RADM E. J. Ott Dep Chief of Naval Matl (Acquisition) 08 AV 222-3080	Mr. J. F. Grosson Assist Dep Chief of Naval Matl (Acquisition) 08B AV 222-3081
CNR	Chief of Naval Research 800 N. Quincy Street Arlington, VA 22217	RADM A. J. Baciocco, Jr. Chief of Naval Research 100 AV 226-4258	Dr. Jerome Smith Technical Director 102 AV 226-4262
DIR(RDT&E)	Director Research, Development, Test and Evaluation Chief of Naval Operations Rm. 5C686 Pentagon Washington, D.C. 20350	VADM D. F. Emerson Director (RDT&E) 098 AV 227-5533	
NAEC	Commanding Officer Naval Air Engineering Center Lakehurst, NJ 08733	CAPT R. D. Frichtenicht Commanding Officer 00 AV 624-2290	Mr. William J. Cox Technical Director 09 AV 624-2290
NAPTC	Commanding Officer Naval Air Propulsion Test Center P.O. Box 7176 Trenton, NJ 08628	CAPT B. T. Alligood Commanding Officer A AV 443-7373	Mr. Bayard T. McWilliams Technical Consultant RML AV 443-7373
NEPRF	Commanding Officer Naval Environmental Prediction Research Facility Monterey, CA 93940	CAPT W. G. Schramm Commanding Officer AV 878-2928	Dr. Alan Weinstein Director of Research AV 878-2675

ACRONYM	ADDRESS	MILITARY CONTACT	CIVILIAN CONTACT
COMPACMISTESTCEN	Commander Pacific Missile Test Center Point Mugu, CA 93042	RADM Fred Baughman Commander 0000 AV 351-7113	Mr. Thad Perry Technical Director 0002 AV 351-7275
NAVMPEVALFAC	Commanding Officer Naval Weapons Evaluation Facility Kirtland Air Force Base Albuquerque, NM 87117	CAPT D. R. Weichman Commanding Officer 00 AV 964-0491	Mr. E. G. Grewis Technical Director 02 AV 964-0491
CIVENGRLAB	Officer-in-Charge Civil Engineering Laboratory Naval Construction Battalion Center Port Hueneme, CA 93043	CAPT Ronald P. Cope Officer-in-Charge L01 AV 360-4528	Mr. William F. Burkart Technical Director L03 AV 360-4520
NAVBIOSCLAB	Commanding Officer Naval Biosciences Laboratory Naval Supply Center Oakland, CA 94625	CAPT J. Pribnow Commanding Officer 82 AV 836-5439	Dr. Robert J. Keckly Associate Director 82 AV 836-6343
NAVAIRTESTCEN	National Academy of Sciences 2101 Constitution Avenue, N.W. Washington, D.C. 20418	RADM John G. Wissler Commander CT00 AV 356-4254	Mr. Lee M. Hunt Executive Director (202) 389-6755
NORDA	Commander Naval Air Test Center Patuxent River, MD 20670	CAPT Charles Darrell Commanding Officer 100 AV 485-4010	Mr. John B. Paradis Technical Director CT02 AV 356-4254

ACRONYM	ADDRESS	MILITARY CONTACT	CIVILIAN CONTACT
NOMTF	Commanding Officer Naval Ordnance Missile Test Facility White Sands Missile Range White Sands, NM 88002	CAPT Mell A. Peterson, Jr. Commanding Officer A AV 258-2101	Mr. Henry L. Hendon Supervisory General Engineer 50E AV 258-3531
NEODF	Commanding Officer Naval Explosive Ordnance Disposal Facility Indianhead, MD 20640	CDR Michael K. Heinz Commanding Officer A AV 364-4225	Mr. Lionel Dickinson Technical Director D AV 364-4439
LANTFLTPN- TRAFAC	Officer-in-Charge Navy Clothing and Textile Research Facility 21 Strathmore Road Natick, MA 01760	CDR Donald S. Parsons Officer-in-Charge 00 AV 955-2172	Mr. Seymour Lash Technical Director 30 AV 955-2173
NAVMEDRSCHU	Commanding Officer Atlantic Fleet Weapons Training Facility Roosevelt Roads, PR (Mailing Address) Commanding Officer Atlantic Fleet Weapons Training Facility FPO Miami 34051 or Commanding Officer Atlantic Fleet Weapons Training Facility FPO New York 09551	Commanding Officer Atlantic Fleet Weapons Training Facility FPO New York 09527	CAPT R. H. Watten Commanding Officer Unit No. 3 Cairo, Egypt

ACRONYM	ADDRESS	MILITARY CONTRACT	CIVILIAN CONTACT
NAVMEDRSCHU	Commanding Officer U.S. Naval Medical Research Unit No. 2 Box 14 APO San Francisco 96263	CDR Kurt Sorenson Commanding Officer Taipei, Republic of China	
NAVAEROMEDRSCH-LAB	Commanding Officer Naval Aerospace Medical Research Laboratory Naval Air Station Pensacola, FL 32508	CAPT R. E. Mitchell Commanding Officer L1 AV 922-3286	
NAVSUBMEDRSCH-LAB	Commanding Officer Naval Aerospace Medical Research Laboratory Naval Air Station Pensacola, FL 32508	CDR Robert A. Margulies Commanding Officer 00 AV 241-3263	
NAVHLTHRSCHCEN	Commanding Officer Naval Health Research Center San Diego, CA 92152	CAPT R. H. Rahe Commanding Officer AV 933-6271	
NAVMDRSCH-INSTITUTE	Commanding Officer Naval Medical Research Institute National Naval Medical Center Bethesda, MD 20014	CAPT W. F. Miner Commanding Officer AV 295-0021	
NAVDENTALRSCH-INSTITUTE	Commanding Officer Naval Dental Research Institute Naval Base Great Lakes, IL 60088	CAPT M. R. Wirthlin Commanding Officer AV 792-4678	
NAVARCLAB	Commanding Officer Naval Arctic Research Laboratory Barrow, AK 99723	LCDR Mike Brown Commanding Officer (907) 852-4966	Dr. John J. Kelley Technical Director (907) 852-4966

DISTRIBUTION LIST

AIR FORCE

Robert Hermann, Assistant Secretary of the Air Force (Research, Development and Logistics), Rm. 4E856,  
The Pentagon

Raymond L. Bisplinghoff, Chairman, Scientific Advisory Board, USAF, Rm. 5D982, The Pentagon

LtGen Thomas P. Stafford, Deputy Chief of Staff, (Research, Development and Acquisition), Rm. 4E334,  
The Pentagon

Dr. Bernard Kulp, Chief Scientist, HQ, AFSC, Andrews AFB, DC 20334

Dr. Lawrence Kravitz, Technical Director, AFOSR, Bolling AFB, DC 20332

BrGen B. D. Ward, Director of Laboratories, AFSC, Andrews AFB, DC 20334

DISTRIBUTION LIST

<u>ACRONYM</u>	<u>ADDRESS</u>	<u>MILITARY CONTACT</u>	<u>CIVILIAN CONTACT</u>
RADC	Rome Air Development Center Griffiss AFB, NY 13441	Colonel Donald Stukel Commander	Dr. Irvin Gableman Chief Scientist 315/330-4512 AV 587-4512
AFAL	Avionics Laboratory Wright-Patterson AFB OH 45433	Colonel Robert Lopina Director	Dr. Jesse Ryles Chief Scientist 513/255-3627 AV 785-3627
AFML	Air Force Materials Laboratory Dayton, OH 45433	Colonel Dana Brabson Commander	Dr. Harris Burte Acting Director 513/255-6825 AV 787-6825
AFGL	Air Force Geophysics Laboratory	Colonel James Baker Commander	Dr. John Howard Chief Scientist 617/861-3161 AV 478-3161
AMD	USAF School of Aerospace Medicine San Antonio, TX 78235	Dr. Billy B. Welch Technical Director	Mr. Thomas Douthit Chief Scientist 512/536-3406 AV 240-3406
AMRL	Aerospace Medical Research Lab Wright Patterson AFB, OH 45433	Colonel Roy Dehart Commander	None
AFHRL	Human Resources Laboratory Brooks AFB, TX 78235	Colonel Ronald Terry	Dr. Herbert J. Clark Research Focal Point 512/536-3611 AV 240-3611

<u>ACRONYM</u>	<u>ADDRESS</u>	<u>MILITARY CONTACT</u>	<u>CIVILIAN CONTACT</u>
<b>AFWL</b>	Air Force Weapons Laboratory Albuquerque, NM 87117	Colonel William Morris Commander	Dr. William L. Lehmann Director 505/264-8561 AV 964-9856
<b>AFRPL</b>	Air Force Rocket Propulsion Laboratory Edwards AFB, CA 93523	Dr. Richard Weiss 714/553-2620 AV 350-1110, x32622	Colonel William Morris Commander
<b>AFAPL</b>	Aero Propulsion Laboratory Wright-Patterson AFB, OH 45433	Dr. George Strand Director	Dr. Hans Von Ohain 513/255-5334 AV 785-5334
<b>JFSRL</b>	Frank J. Seiller Research Laboratory USAF Academy, CO 80840	Colonel Merle Bacon Commander	LtCol Charles Simon Chief Scientist AV 259-3120
<b>AFATL</b>	Armament Development and Test Center (ADTC) Eglin AFB, FL 32542	Colonel James Tedeschi Commander	Dr. Joseph R. Mayersak 904/882-3002 AV 872-3002
<b>AFFOL</b>	Air Force Flight Dynamics Laboratory Wright-Patterson AFB, OH 45433	Colonel George Cudahy Commander	Dr. Keith Collier 513/255-5778 AV 785-5778